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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,029	08/22/2003	Ming-shuan Yeh	JLNP166	9261

25920 7590 01/03/2007  
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EXAMINER
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HAROON, ADEEL

ART UNIT	PAPER NUMBER
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2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/646,029	<b>Applicant(s)</b> YEH, MING-SHUAN	
	<b>Examiner</b> Adeel Haroon	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/21/06 has been entered.

### ***Response to Arguments***

2. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground of rejection.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Lange (U.S. 6,064,866).

With respect to claim 1, Lange discloses a switchable high frequency bandpass filter in figure 1 (Column 1, lines 6-11). Lange discloses a switchable LC resonator coupled between the input node and output node for providing a plurality of switchable filter transfer functions for a plurality of high frequency signals, having different frequencies transmitted from the input node to the output node wherein the switchable filter transfer functions are used for performing bandpass functions with respect to the high frequency signals (Column 2, line 61 – Column 3, line 4). Lange further discloses a switch signal input interface circuit coupled to the switchable LC resonator for controlling the switchable LC resonator to provide the plurality of high frequency signals having different frequencies with a suitable one of the plurality of switchable filter transfer functions (Column 4, lines 37-43).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 2-5, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lange in view of Satoh (U.S. 66,895,228).

With respect to claim 2, Lange discloses the filter comprising inductive and capacitive units in figure 1; however, Lange's filter's are distinct from each other and do not share components. In the same field, Satoh discloses a switchable high frequency bandpass filter operable on different frequencies with a plurality of switchable filter transfer functions in figure 4. Satoh discloses the switchable LC resonator comprising an inductive unit, element numbers 26, 27, 29, and 21, coupled between the input node and ground in figure 4. Satoh also discloses a first capacitive unit, element numbers 19 and 20, coupled between the input node and ground such that the inductive unit and the first capacitive unit construct a first-state parallel LC resonant circuit (Column 5, lines 7-12). Satoh further discloses a second capacitive unit, element numbers 22 and 28, between the input node and ground such that the inductive unit, the first capacitive unit, and the second capacitive unit construct a second-state parallel LC resonant circuit (Column 5, lines 22-28). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to apply Satoh's technique of sharing components for different transfer functions in the filter of Lange in order to provide a more "downsized and sophisticated" filter (Satoh: Column 2, lines 32-39).

With respect to claim 3, Satoh discloses the switch signal is a DC voltage signal having a predetermined lower and higher voltage levels where the second capacitive unit is enabled and disabled according to the DC voltage signal resulting in that the

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switchable LC resonator switches configuration between the first state parallel LC resonant circuit and the second state parallel LC resonant circuit (Column 4, lines 45-54).

With respect to claim 4, Satoh discloses a blocking circuit, element numbers 11 and 15, having a first terminal coupled to the output node and second terminal used as a common high frequency output terminal which is used to have sharp attenuation at harmonics such as DC signals (Column 4, lines 55-61).

With respect to claim 5, Satoh further discloses a capacitive element, element number 11, in the DC blocking circuit having a terminal used as the first terminal and another terminal used as the second terminal (Column 4, lines 55-61).

With respect to claim 11, Satoh further discloses that the inductive unit comprises of a first inductor, element number 29, having a terminal coupled to a DC voltage source, ground since it is zero DC volts, and another terminal coupled to both of the input and output node in figure 4. Satoh also discloses a first capacitor, element number 21, coupled to the DC voltage source, the ground right below it since ground is zero DC volts (Column 5, lines 6-12).

With respect to claim 12, Satoh further discloses the first capacitive unit comprising a second capacitor, element number 19, having a terminal coupled to both the input and output nodes and another terminal coupled to ground in figure 4.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lange and Satoh in view of Damgaard et al. (U.S. 6,208,875).

With respect to claims 6-8, the modified switchable high frequency bandpass filter of Lange and Satoh is described above in the discussion of claims 1 and 2. Satoh further discloses that the switchable high frequency bandpass filter is used in a dual band, GSM and DCS, transmitter having frequency generated signals at GSM and DCS bands entering at element number 102 in figure 11 (Column 1, lines 17-31). Satoh also discloses controlling the switch signal according to the type of signal being inputted at the filter (Column 4, lines 45-51). Lange and Satoh do not expressly disclose a high frequency signal generator. However, Damgaard et al. disclose a dual band, GSM and DCS, transmitter thus making it analogous art with Satoh since it is in the same field of endeavor. Damgaard et al. teach high frequency signal generator, element number 15, that has a first and second frequency generating circuit for generating signals at two different frequencies, for generating the plurality of high frequency signals entering a

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filter/buffer element, 23 (Column 3, line 61 – Column 4, line 3). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to apply the high frequency signal generator of Damgaard et al. in the modified switchable high frequency bandpass filter of Lange and Satoh in order to control the frequencies of the signals generated.

With respect to claim 9, Satoh and Damgaard et al. teach using DCS and GSM bands where GSM band is substantially twice as high as the DCS band (Satoh Column 1, lines 17-25 and Damgaard et al. Column 3, lines 39-45).

With respect to claim 10, Damgaard et al. further discloses that the first and second frequency generation circuits are formed by a voltage-controlled oscillator, element number 57 and 59 (Column 4, lines 44-60).

9. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lange and Satoh in view of Watanabe et al. (U.S. 6,937,845).

With respect to claim 13, the modified switchable high frequency bandpass filter of Lange and Satoh is described above in the discussion of claims 1 and 2. Satoh also discloses that second capacitive unit comprising a third capacitor, element number 22/17, having a terminal coupled to both the input and output nodes (column 5, lines 22-24). Satoh also discloses a diode, element number 17, having a P electrode for receiving the switch signal from element number 18 and an N electrode, where the P electrode is coupled to another terminal of the third capacitor and the switch signal input



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interface (Column 5, lines 29-39). Satoh does not expressly disclose a fourth capacitor and resistor. However, Watanabe et al. disclose a high frequency module working in dual bands, GSM and DCS, thus making it analogous art with Satoh since it is in the same field of endeavor. Watanabe et al. teaches using a switching diode, element number D2, to change the transmission frequency where a fourth capacitor, element number C23, and resistor, element number R, are each coupled in series between the N electrode of the diode and ground (Column 4, lines 36-41). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to apply the added load of a capacitor and resistor technique of Watanabe et al. in the modified switchable high frequency bandpass filter of Lange and Satoh in order to have a load in between the diode and ground to ensure better impedance.

With respect to claim 14, Satoh discloses the switch signal is a DC voltage signal having a predetermined lower and higher voltage levels where the diode is enabled and disabled according to the DC voltage signal (Column 4, lines 45-54).

With respect to claim 15, Satoh further discloses a signal input interface comprising a second capacitor, element number 19, having a terminal coupled to the P electrode of the diode and another terminal for receiving the switch signal and a fifth capacitor, element number 20, having a terminal coupled to the another terminal, for receiving the switch signal and is coupled to ground in figure 4.

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**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adeel Haroon whose telephone number is (571) 272-7405. The examiner can normally be reached on Monday thru Friday, 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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12/18/06

  
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